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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: Jason M. Brewer

Docket Number: TI-25247A

Serial Number: 10/694,277

Confirmation No.: 2806

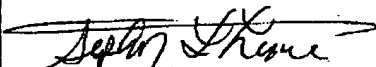
Art Unit: 2142

Filed: 10/27/2003

Examiner: Prieto, Beatriz

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Stephen L. Levine

August 7, 2006
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FACSIMILE COVER SHEET

☒ **FACSIMILE COVER SHEET**☐ NEW APPLICATION☐ DECLARATION (# Pages)☐ ASSIGNMENT (# Pages)☐ FORMAL DRAWINGS☐ INFORMAL DRAWINGS☐ CONTINUATION APP'N (# Pages)☐ DIVISIONAL APP'N☐ AMENDMENT pages☐ EOT (# Pages), w/duplicate☐ NOTICE OF APPEAL☒ **APPEAL REPLY 9 Pages**☐ ISSUE FEE (# Pages)☐ REPLACEMENT FIGURES☐ ANNOTATED FIGURES☐ FEE TRANSMITTAL, w/duplicate 2
pages

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/694,277
Applicant: : Jason M. Brewer
Filed : 10/27/2003
TC/A.U. : 2142
Examiner: : Prieto, Beatriz

Confirmation No. 2806

Docket No. : TI-25247A
Customer No. : 23494

For: Interconnected Ethernet and 1394 Network

APPELLANT'S REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant respectfully presents this Reply brief in reply to the Examiner's Answer, filed June 6, 2006. Appellant hereby incorporates by reference the entirety of the Appeal Brief filed in this matter, and supplements said Brief in view of the Examiner's Answer, as follows.

The Examiner is thanked insofar as in her Answer in the present appeal she has now indicated that claims 46 and 70 are objected to and would be allowable if rewritten in independent form. As detailed below, the present Reply attempts to extrapolate, from that allowability, as to why the independent claims 30 and 51, from which claims 46 and 70 respectively depend, are also in condition for allowance.

Appellant argued in its Appeal Brief, in part, the following:

(1) there is no motivation to combine Templin '550 and Finlayson (and the Examiner is combining parts of Templin's stated prior art with Templin's preferred embodiment, even though Templin criticizes and teaches away from its stated prior art)¹;

(2) there is certainly no suggestion in Finlayson to combine it with Templin '550; and

(3) even if the two references were so combined, they would not provide the resultant limitations set forth in claim 30.

Without waiver or prejudice to items (1) and (2), this Reply concentrates on item (3) in that it is hoped that the Examiner, or the Board, can more easily appreciate in view of this Reply that even if, for the sake of argument, the art is combined as suggested, the combination does not show *any* of the pending claims. Indeed, the Examiner's indication in her Answer that dependent claims 46 and 70 could be rewritten as allowable is helpful because those claims recite aspects that are facilitated by claims 30 and 51, from which claims 46 and 70 respectively depend. Thus, it is not surprising that when properly construed and understood, the underlying aspects of claims 30 and 51 are also patentable, as Appellant attempts to further explain below.

The Overview section of Appellant's Appeal Brief details numerous aspects of the preferred embodiments, as recited in the pending claims. This Reply uses an example from the pending Specification and Figures in an effort to simplify the presentation and understanding of those details.

¹ The Examiner cites cases in her Answer for the proposition that patents are usable for all they contain. This is agreed as to the stated prior art *singularly*, or to a described invention *singularly*. However, what is emphasized by Appellant is that one skilled in the art would not be inclined, as the Examiner is doing with the Templin reference, to combine the very things that Templin criticizes with those things that Templin teaches as its own invention. The Examiner is not relying solely on one aspect from which the technology is teaching away as a basis of anticipation as in the case cited by the Examiner, but is instead *combining* aspects that a patentee criticizes (and hence teaches away from) with the own different approach of that same patentee. Applicant respectfully submits that this is clearly hindsight, as Templin himself sought to distance himself from a prior art which the Examiner then contends a different person skilled in the art would instead seek to combine with the other non-prior art teachings of Templin.

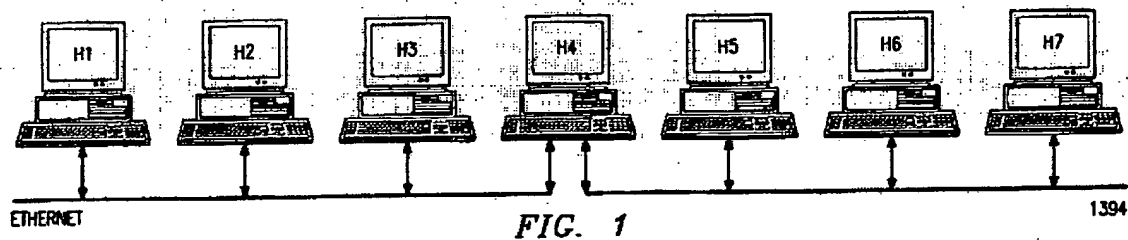


Figure 1 of the application is presented above and is now used as an introduction to many of the terms and concepts of the claims. In Figure 1, there are two computer networks, an Ethernet network to the left and a 1394 network to the right. Three host computers H1-H3 are connected to the Ethernet network, and three host computers H5-H7 are connected to the 1394 network. In general, each host computer is able to perform *intranetwork* communications; that is, communications with any host computer on its same network. So, as examples, H1 can communicate with H2 or H3, in an intranetwork fashion on the Ethernet network, and similarly H5 can communicate with H6 or H7, in an intranetwork fashion on the 1394 network. Further, when a host computer seeks to communicate with another host computer, the seeking computer is referred to as the *source* host computer, and the computer with which the source host computer seeks to communicate is the *destination* host computer.

Communications between host computers in Figure 1 also may occur in an *internetwork* fashion, that is, as between a host computer on one of the two networks with a host computer on the other of the two networks. To permit such communications in the present invention, there is an additional computer connected to both networks, namely, computer H4, referred to as a link layer gateway computer. This name indicates that computer H4 acts as a "gateway" between the two networks (i.e., to facilitate *internetwork* communications), and the gateway achieves this at its link layer, which therefore implicates a so-called protocol address at that same level, as further detailed below. Also, as with intranetwork communications, in internetwork communications a computer seeking to communicate with another is referred to as the *source* host computer, and the computer with which the source host computer seeks to communicate is the *destination* host computer. As readily appreciated from Figure 1, therefore, when internetwork communications between such a source and destination occur, they pass through the link layer gateway computer H4.

Communications between host computers in Figure 1, whether *internetwork* or *intranetwork*, are achieved by using "addresses" for each computer. Thus, in some ways like addresses are used for sending mail in the postal system, numerical addresses are used in certain computing systems to identify the source and destination of the thing being sent. However, rather than each computer having only a single address, and as known in the art each computer has an address at two different levels: (1) at the hardware physical layer, which is the level that a computer connects to its network using a network interface circuit (abbreviated "NIC" in Figure 2); and (2) at the protocol level, which is at a higher level than the hardware physical layer. The Specification for sake of ease abbreviates each of these two addresses, the hardware physical layer address and the internet protocol address, as HPA and IPA, respectively. The Specification also provides an example that relates each of these two addresses to each respective host computer in Figure 1, as in the following Table 1 taken from the Specification:

<u>host computer</u>	<u>IPA</u>	<u>HPA</u>
H1	IPA1	HPA1
H2	IPA2	HPA2
H3	IPA3	HPA3
H4	IPA4	HPA4
H5	IPA5	HPA5
H6	IPA6	HPA6
H7	IPA7	HPA7

Table 1

So, for example, host computer H1 has an in fact address pairing that includes a hardware physical address, HPA1, and an associated respective protocol address, IPA1. Similarly, each other computer has an in fact address pairing that includes a hardware physical address, HPA, and an associated respective protocol address, IPA.

Turning now to claim 30, one aspect it recites is that the link layer gateway computer communicates novel and unobvious modified address pairings to the other computers, that is, it manipulates the in fact pairings of Table 1 so as to permit subsequent efficient *internetwork* communications - thus, these pairings facilitate the later communications by those other computers as recited in the now-allowed claims 46 and 70; accordingly, in this manner, the link layer computer thereby informs the other computers of certain address pairings and those pairings are used, in combination with the method of operation of the link layer computer, for later communications. However, the manners of responding to conditions and providing those pairings are also inventive, as is now explored in greater detail.

As shown by an example later, claim 30 recites numerous aspects, but the third-from-the-last subparagraph of the claim is shown by example in either step 34 or step 36 of Figure 4A. Either of steps 34 or 36 detects that the link layer host computer is, as in claim 30, "receiving a data packet comprising an address pairing communication" and that the received packet is for an *internetwork* communication - in the language of the claim, the determination that the packet is an *internetwork* communication is stated as: "the link layer protocol handler determines if a source host computer which transmitted the received data packet and the destination host computer designated by the destination protocol address *are not on the same one of either the first network medium or the second network medium.*" When this determination is so made, in step 40 the link layer computer, as in claim 30, "communicates a reply data packet to the source host computer which transmitted the received data packet." Thus, as an example used also again later, suppose that host computer H1 of the Ethernet network sends an address pairing request packet to host computer H6 of the 1394 network; this packet is necessarily received by link layer computer H4 because that computer is connected to both networks. Further, as detailed in the Specification, then the link layer computer through its protocol layer is able to determine, as recited in claim 30, that this is an *internetwork* communication.

If either step 34 or step 36 determines that the received address pairing packet is an *internetwork* packet, then the method continues to step 40, during which the link layer computer in part performs by communicating a reply packet, as concluded in claim 30:

..., the link layer protocol handler communicates a reply data packet to the source host computer which transmitted the received data packet; the reply data packet comprises an address pairing; and

the address pairing comprises the destination protocol address and a hardware physical address corresponding to a selected one of the first network interface circuit or the second network interface circuit, wherein the selected network interface circuit is coupled to the same network medium as the source host computer which transmitted the received data packet.

From this claim 30 language, there are two addresses communicated by the link layer computer in its reply data packet: (1) "the destination protocol address;" and (2) "a hardware physical address." Address (1) by earlier limitation of the claim is not the address of the link layer computer, while address (2) is directly related to either the first or second network interface circuit of the link layer computer. In other words, the recited destination protocol address is *not* that of the link layer computer, while the recited hardware physical address *is* that of the link layer computer – this is in direct contrast to the prior art cited by the Examiner, as detailed later.

In further support of the preceding paragraph, note that the recited steps with respect to "the destination protocol address" are occurring for an *internetwork* communication. Specifically, that destination protocol address is recited and responded to in claim 30 when it "*does not correspond to the assigned address of the link layer gateway computer*" (i.e., is not directed to the link layer computer as the destination computer), and when it is determined "that the source host computer which transmitted the received data packet and the destination host computer designated by the destination protocol address *are not on the same one* of either the first network medium or the second network medium,..." (i.e., an *internetwork* communication). The preceding is also demonstrated by way of an example as excerpted below from the Specification:

Suppose that host computer H1 of the Ethernet network issues an ARP request to host computer H6 of the 1394 network. In other words, H1 issues an ARP with a destination IPA of IPA6. Therefore, one skilled in the art will confirm that step 34 is reached using method 20. In response, the link layer protocol performs the first action of step 40 by replying to host computer H1, and that reply includes the source IPA (i.e., IPA1), the destination IPA (i.e., IPA6), but the HPA of

host computer H4 (i.e., HPA4) rather than the HPA of host computer H6.
(emphasis added).

Thus, in the example and as seen in Figure 1, above, there is an attempted internetwork communication from H1 to H6. In response to detecting this, the link layer host computer H4 replies, as in claim 30, *with the HPA of its own network interface circuit (HPA4), but pairs that with the destination IPA for a different computer (i.e., other than itself), namely, with IPA6 of the internetwork destination host computer H6* that was specified by the source host computer H1. This is not what is shown in the prior art, as detailed immediately below.

Turning now to the prior art cited by the Examiner, the Examiner states on Page 5 of the Examiner's Answer that "Templin does not disclose communicating a reply data packet to the source host computer, where the data packet reply comprises the destination protocol address and a hardware physical address to the source computer." Appellant agrees that this is one of Templin's failures.

Further, the Examiner then turns to Finlayson, but Finlayson per the Examiner is the opposite of claim 30 with respect to its recited "destination protocol address" (which per claim 30 identifies the destination host computer) and the "hardware physical address." For example, claim 30 recites for the link layer computer, that "responsive to either of the first and second network interface circuits receiving a data packet, the computer protocol handler *evaluates a destination protocol address in the received data packet.*" So, here the recited "responsiveness" is in part to the "*destination protocol address in the received data packet,*" and the response as discussed below is in providing the later-recited "hardware physical address." In contrast, the Examiner's own statements show that in this respect Finlayson is just the opposite. The Examiner states with respect to Finlayson that it is "sending a request to determine the protocol address of a device *given the hardware address of the device.*" Later, the Examiner adds that the sender "wishes to determine his own protocol address" and to do so *in the "request will be the hardware address of the sender."* Thus, in claim 30, the "given" is the protocol address, whereas per the Examiner, Finlayson is just the opposite, namely, the hardware address of the device is sent.

Still further, in the Examiner's analysis of Finlayson, the Examiner does not show what is shown above by the example and claim 30 language, that is, that when the link layer host

computer (e.g., H4) replies, as in claim 30, it does so with the hardware physical address of *its own* network interface circuit (e.g., HPA4), but pairs that not with its own protocol address, but instead with the destination protocol address *for a different internetwork destination host computer* (e.g., IPA6), where that destination host computer (e.g., H6) was specified by the source host computer H1. Specifically, the Examiner's Answer states on Page 5 that "Finlayson teaches where the reply comprises the hardware and protocol address of *the responder* as well as the hardware and protocol address requested, denoted "ar\$sha" and "ar\$spa"..." But, on Finlayson page 2, these addresses quoted by the Examiner, "ar\$sha" and "ar\$spa", are both from the *source* computer. Thus, the reply by Finlayson replies with addresses of only the source and responder computers. In contrast and as shown in detail above and in the pending application, the reply pairing in claim 30 relates: (1) to the link layer computer by sending its own physical hardware address; and (2) to a different destination computer by sending the destination protocol address of that different computer. Thus, Finlayson does not describe an instance where the reply address relates to anything other than either the source and the responder and, for this reason, the art, even if combined per the Examiner, does not show the elements of claim 30.

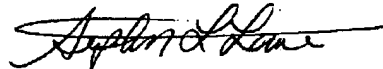
In view of the above, Appellant respectfully submits that the final rejection of claim 30 and its dependent claims 31 through 37, 42 through 46, 49, and 50 are in error and should be reversed.

The Examiner rejects claim 51 by stating it "comprises the same limitations as discussed on claim 30" and asserts that the "same rationale of rejection is applicable." For at least then the reasons set forth above with respect to claim 30, Appellant respectfully submits that the final rejection of claim 51 and dependent claims 52 through 63, and 66 through 69 are in error and should be reversed.

The remaining arguments from Appellant's Appeal Brief, with respect to claims 30 and 51 as well as other arguments directed to various dependent claims, show additional bases for allowance as well.

For the foregoing reasons, Appellant respectfully submits that the final rejection of claims 30 through 37, 42 through 46, 49 through 63, 66 through 70, 73, and 74 in this case is in error. Reversal of the rejection is respectfully requested.

Respectfully submitted,



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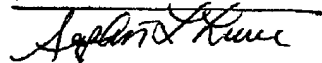
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